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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,189	08/01/2005	Jean-Luc Crebouw	0501-1140	8138

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EXAMINER	
JACKSON, JAKIEDA R	
ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
02/09/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

Office Action Summary	Application No.	Applicant(s)	
	10/544,189	CREBOUW, JEAN-LUC	
	Examiner	Art Unit	
	JAKIEDA R. JACKSON	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-24, 26-27 and 34-36* is/are rejected.

7)☒ Claim(s) *25, 28-33 and 37-42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 29, 2010.

Response to Arguments

2. Applicants argue that the prior art cited does not specifically teach applying to a temporal signal of an inverse variation of the pitch a temporal sampling of the sound signal with a variable sampling step, this step varying with a n inverse value of the pitch variation. Applicants' arguments are persuasive, but are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 22-24, and 35** are rejected under 35 U.S.C. 103(a) as unpatentable over Heikkinen (PGPUB 2002/0184009) in view of Ikeda (USPN 6,031,173), hereinafter referenced as Ikeda.

Regarding **claims 22 and 35**, Heikkinen discloses a method and device, hereinafter referenced as a method, for the differentiated digital processing of a sound signal, constituted an interval of a frame by a sum of sines of fixed amplitude and of which a frequency is modulated linearly as a function of time, this sum being modulated temporally by an envelope, a noise of said sound signal being added to said signal, prior to said sum, comprising:

a stage analyzing making it possible to determine parameters representing said sound signal (parametric; paragraph 0004) by

calculating the envelope of the signal (envelope; paragraph 0059),

calculating of the period of the fundamental of the voice signal (pitch) and of its variation (variations in pitch; paragraphs 0013 and 0065),

applying to a temporal signal of an inverse variation of the pitch (inverse; paragraph 0050),

performing a Fast Fourier Transformation (FFT) of a pre-processed signal (Fourier transform; paragraphs 0004-0008),

extracting signal frequential components (frequencies) and their amplitudes (amplitude) from a result of the Fast Fourier Transformation (paragraphs 0004-0008), and

calculating of the pitch in a frequential domain (frequency domain; paragraphs 0004-0008), but does not specifically teach applying a temporal sampling of the sound signal with a variable sampling step and calculating pitch with respect to the previously calculated pitch.

Ikeda discloses a method comprising:

applying to a temporal signal of an inverse variation of the pitch a temporal sampling of the sound signal with a variable sampling step, this step varying with an inverse value of the pitch variation (column 23, line 24 - column 25, line 31); and

calculating the pitch in a frequential domain (frequency domain) and its variation with respect to the previously calculated pitch in order to improve a precision of the previously calculate pitch (column 23, line 24 - column 25, line 31), to improve accuracy.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen's method as described above, to enhance the signal quality (column 2, lines 35-44 and column 1, lines 35-67), as taught by Ikeda.

Regarding **claim 23**, Heikkinen discloses a wherein the method further comprises a stage of synthesizing (synthesized) of said representative parameters making it possible to reconstitute said sound signal (constructs a speech signal; paragraphs 0004-0008).

Regarding **claim 24**, Heikkinen discloses a method wherein the method further comprises a stage of coding (encoding) and of decoding (decoding) of said representative parameters of said sound signal (speech signal; paragraph 0040).

5. **Claims 26 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen in view of Ikeda and in further view of Alles (USPN 4,201,105).

Regarding **claim 26**, Heikkinen in view of Ikeda disclose a method of determining parameters of a sound signal but does not specifically teach a method wherein it further comprises a stage of generating special effects associated with the synthesis.

Alles discloses a method characterized in that it furthermore comprises a stage of generation of special effects (special effects) associated with the synthesis (synthesis; column 6, lines 17-44), to improve sound synthesizing.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen in view of Ikeda 's method as described above, to control amplitude and frequency parameters that produce respective constituent tones of sound segments (abstract), as taught by Alles.

Regarding **claim 34**, it is interpreted and rejected for similar reasons as set forth in the combination of claims 22-26.

6. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen in view of Ikeda and in further view of Thyssen et al. (USPN 6,240,386), hereinafter referenced as Thyssen.

Regarding **claim 27,** Heikkinen in view of Ikeda disclose a method characterized in that said stage of synthesis comprises:

a summing of the sines (sinusoidal model) of which the amplitude of the frequential components (frequency) varies as a function of the envelope of the signal and of which the frequencies vary linearly (paragraphs 0004-0011),

a calculation of the phases (phases) as a function of the frequencies value (frequency) and of the values of phases and frequencies belonging to the preceding frame (paragraphs 0004-0011),

an application of the envelope (envelope; paragraph 0059), but does not specifically teach a superimposition of the noise.

Thyssen discloses a method of superimposing noise (column 44, lines 35-43), to reproduce the actual speech signal.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen in view of Ikeda's method as described above, for higher quality decoding and reproduction (abstract), as taught by Thyssen.

7. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen in view of Ikeda and Alles and in further view of Thyssen et al. (USPN 6,240,386), hereinafter referenced as Thyssen.

Regarding **claim 36,** Heikkinen in view of Ikeda and Alles disclose a device characterized in that said stage of synthesis comprises:

means for a summing of the sines (Heikkinen; sinusoidal model) of which the amplitude of the frequential components (frequency) varies as a function of the envelope of the signal and of which the frequencies vary linearly (paragraphs 0004-0011),

means of a calculation of the phases (phases) as a function of the frequencies value (frequency) and of the values of phases and frequencies belonging to the preceding frame (paragraphs 0004-0011),

means for applying the envelope (envelope; paragraph 0059), but does not specifically teach means of superimposition of the noise.

Thyssen discloses means for superimposing noise (column 44, lines 35-43), to reproduce the actual speech signal.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen in view of Ikeda and Alles's method as described above, for higher quality decoding and reproduction (abstract), as taught by Thyssen.

Allowable Subject Matter

8. Claims 25, 28-33 and 37-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAKIEDA R. JACKSON whose telephone number is (571)272-7619. The examiner can normally be reached on Monday-Friday from 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jakieda R Jackson/
Primary Examiner, Art Unit 2626